EUROPEAN PATENT APPLICATION

(72) Inventor: Claus, David Michael
7660 Brookview Lane
Indianapolis, Indiana 46250(US)

Inventor: Coutinho, Roy S.
10905 Timber Lane
Carmel, Indiana 46032(US)
Inventor: Murphy, Kevin Dean
6021 Middle Drive
Indianapolis, Indiana 46236(US)
Inventor: Snavley, James Damon
262 North Brewer Street
Greenwood, Indiana 46142(US)
Inventor: Zempol, Kenneth Robert
44 Center Grove Road, Apt. F26
Randolph, New Jersey 07920(US)

(74) Representative: Watts, Christopher Malcolm
Kelway et al
AT&T (UK) LTD. AT&T Intellectual Property
Division 5 Mornington Road
Woodford Green Essex IG8 OTU(GB)

(54) Databaseless security system.

(57) An improved security system, including a portable smart card (500) and a host computer (600), eliminates the need for the computer to store individual personal identification (ID) numbers for each user seeking access to the computer. Instead, the computer stores a first encryption algorithm E_1 used in converting a particular identification number $(ID)_n$ into a secret code S_n for that particular user. S_n also exists within the memory of the smart card having been loaded into its memory at the time of issue. A challenge number C is generated by the computer and transmitted to the smart card. Within the smart card and the computer, microprocessors respond to the challenge number C, the secret code S_n, and a second encryption algorithm E_2 in order to generate response numbers R_n and R'_n respectively. Thereafter, R_n is transmitted to the computer where it is compared with R'_n. A favorable comparison is necessary for gaining access to the computer.
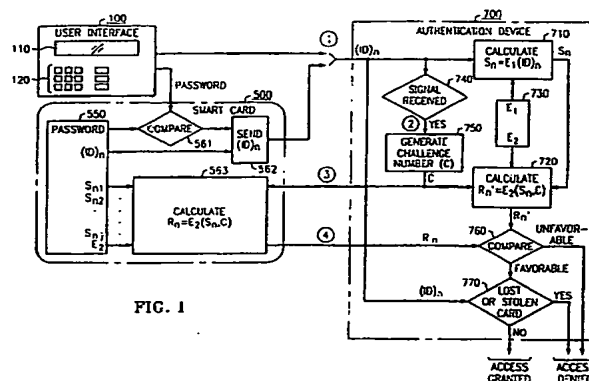
FIG. 1

EP 0 427 465 A3

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	EP-A-0 029 894 (IBM) * abstract; claim 1 *	1,9	G 07 F 7/10 G 07 C 9/00 G 06 F 1/00
A	EP-A-0 131 421 (AMERICAN TELEPHONE AND TELE-GRAPH COMPANY) * abstract *	1,9	
A	EP-A-0 281 059 (SIEMENS) * abstract *	1,9	
A	US-A-4 310 720 (CHECK) * abstract *	1,9	
A	EP-A-0 114 773 (CII HONEYWELL BULL) * abstract *	1,9	
A	EP-A-0 281 058 (SIEMENS) * abstract *	1,9	
A	EP-A-0 284 133 (TRT) * claim 1 *	1,9	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
D,A	US-A-4 453 074 (WEINSTEIN)		G 07 F G 07 C G 06 F
D,A	US-A-4 471 216 (HERVE) * abstract *	1,9	

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	30 May 91	TACCOEN J-F.P.L.